



ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಶಾಲಾ ಶಿಕ್ಷಣ ಇಲಾಖೆ, - ಜಿಲ್ಲಾ ಪಂಚಾಯತ್ ಮೈಸೂರು

ಜಿಲ್ಲಾ ಉಪನಿರ್ದೇಶಕರ ಕಛೇರಿ, ಶಾಲಾ ಶಿಕ್ಷಣ ಮತ್ತು ಸಾಕ್ಷರತಾ ಇಲಾಖೆ, ಮೈಸೂರು ಜಿಲ್ಲೆ

**PRACTICE PAPER - 1**

**Subject: Science Subject code: 83E**

**Time : 3 Hr 15 Min Max Marks : 80**

**ENGLISH MEDIUM**

**School Candidates**

*General Instructions to the Candidate :*

1. There are three parts in the question paper : Part A : Physics, Part B : Chemistry, Part C : Biology.
2. This question paper consists of objective and subjective types of 38 questions.
3. This question paper has been sealed by reverse jacket. You have to cut on the right side to open the paper at the time of commencement of the examination. Check whether all the pages of the question paper are intact.
4. Follow the instructions given against both the objective and subjective types of questions.
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**PART A - PHYSICS**

**I. Four alternatives are given for each of the following questions/incomplete Statements. Choose the correct alternative and write the complete answer Along with its letter of alphabet. 3x1=3**

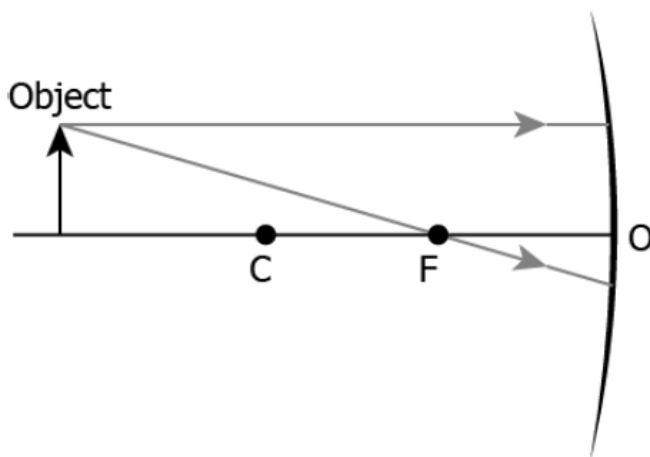
1. Which of the following device, that converts mechanical energy into electrical energy?  
A) Dynamo      B) Motor      C) Transformer      D) Resistor

2. According to Ohm's law the relation between potential difference (V) and current (I)

is :

- A)  $V \propto I^2$       B.  $V \propto \frac{1}{I}$       C.  $V^2 \propto I$       D.  $V \propto I$

3. The image shows the path of incident rays to a concave mirror.



Where would the reflected rays meet for the image formation to take place?

- (a) Behind the mirror      (b) Between F and O  
(c) Between C and F      (d) Beyond C

**II . Answer the Following.**

**3X1=3**

4. What is the range of vision for a normal human eye?  
5. How can you convert an A.C. into a D.C. generator?  
6.. Which mirror can form a real image of an object?

**III. Answer the Following.**

2X2=4

7. Draw a schematic diagram of an electric circuit consisting of a battery resistors R1, R2 and R3 and a plug key, all are connected in series.

8. A candle flame placed at a distance of 30cm from a concave mirror and its image is formed on a screen placed in front of the mirror at a distance of 60 cm from its pole. Find the focal length of the mirror.

OR

A 5cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 10 cm. The distance of the object from the lens is 15 cm. Find the nature, position and size of the image. Also find its magnification

**IV. Answer the Following..**

3X3=9

9. Name two energy sources that you would consider to be renewable. Give reasons for your choices.

OR

What is nuclear energy. Nuclear power is an excellent non-conventional source of energy. Still it is not used commonly for power generation. Why? State three reasons.

10.(A) Draw a ray diagram to show the formation of image by a convex lens, when an object is placed beyond centre of curvature of the lens on principal axis. Mention the nature of image formed

11 (A) Fuse acts like a watchman in an electric circuit. Justify this statement.

(B) Give reason: In household circuit, parallel combination of resistances is used.

OR

A current carrying conductor is placed in a magnetic field. Now answer the following.

(i) List two factors on which the magnitude of force experienced by conductor

depends.

(ii) When is the magnitude of this force maximum?

(iii) State the rule which helps, in finding the direction of motion of conductor.

**V Answer the Following..**

**1X4=4**

12.(a) Define resistance of a conductor.

(b) State the factors on which resistance of a conductor depends.

(c) Name the device which is often used to change the resistance without changing

the voltage source in an electric circuit.

(d) Why are alloys commonly used in electrical heating devices ? Give reason

**VI Answer the Following.**

**1X5=5**

13. a) What is meant by 'refraction of light'

b) Define Snell's laws of refraction.

C) When a light ray passes from air into glass, what happens to its speed?

d) Chethana used a lens to see her thin lines in the palm. What type of lens she used. If the focal length of this lens is 10 cm .Where should she place/hold the Lens so as to have a real and magnified image of lines of the palm?

PART B – Chemistry

**VII. Four alternatives are given for each of the following questions/incomplete**

**Statements. Choose the correct alternative and write the complete answer Along with its letter of alphabet.**

**3x1=3**

14.The acid present in Tomato.

a) acetic acid

b) tartaric acid

c) oxalic acid

c) lactic acid

15. Which of the pairs represent displacement reactions in the following

- a) NaCl solution with copper                      b) MgCl<sub>2</sub> solution with aluminum  
c) FeSO<sub>4</sub> solution with silver                      d) AgNO<sub>3</sub> solution with copper

16 Element X forms a chloride with the formula XCl<sub>2</sub> which is a solid with a high melting point. X would most likely be in the same group of the periodic table as

- a) Na                      b) Mg                      c) Al                      d) Si

**VIII. Answer the following questions**

**3x1=3**

17. In the electrolysis of water, name the gases liberated at cathode and anode.

18. In the given three test tubes, identify the test tube in which the iron nail gets rusted.

19. Name the gas used in preserving packed food that contains oils or fats.

**IX Answer the Following.**

**2X3=6**

20. Differentiate exothermic and endothermic reactions with examples for each.

21. List the uses of the following

- a) Bleaching powder  
b) Plaster of Paris

22. What are detergents? How are soaps different from detergents.

**X Answer the Following.**

**3X3=9**

23. Draw diagram showing the action of steam on a metal and label hydrogen gas and metal sample.

24 a. What are Amphoteric Oxides?

b. Does Ferrous sulphate react with Zinc? If yes represent it with a balanced chemical equation.

OR

a) In the refining of metals, what does roasting represent?

b) Metals towards the top of the activity series cannot be obtained from their compounds by heating with carbon. Why?

25. a) Write the limitations of Newlands law of Octaves.

b) What are the limitations of Mendeleev's periodic classification ? How did  
Hendry Moseley modify the modern periodic table.

OR

a) Name the metals found among the first 10 elements of the modern periodic  
table.

b) Find the group and period of an element whose atomic number is 17.

**XI Answer the Following.**

4X1=4

26. a) What are homologous series? Write the names and their chemical formulae  
of the first two hydrocarbon compounds having the formula  $C_nH_{2n+2}$ .

b) Explain substitution reaction with an example.

OR

a) What are functional groups. Write the functional groups of propanal and  
ethanoic acid.

b) Write the molecular and structural formula for butane and benzene.

PART C – BIOLOGY

**XII. Four alternatives are given for each of the following questions/incomplete  
Statements. Choose the correct alternative and write the complete answer  
Along with its letter of alphabet.**

2x 1 = 2

27. The growth of pollen tubes towards ovules is an example for the following  
type of tropism .

a) Hydrotropism    b) chemotropism    c) phototropism    d) geotropism

28. The correct sequence of sexual reproduction in higher plants is

- a) Pollination, germination , gamete formation , fertilization.
- b) Gamete formation, pollination, fertilization , formation of seed.
- c) Fertilization, formation of seeds, pollination , gamete formation .
- d) Fertilization, formation of seeds, gamete formation pollination,

**XIII Answer the following questions**

2x 1 = 2

29. Which are the excretory products in plants?

30. List the compounds that deplete ozone layer.

**XIV Answer the following questions**

3 x 2 = 6

31. Differentiate between transpiration and translocation.

OR

What is double circulation? Write its significance.

32. Why do we need to use our resources carefully ? Among the 5R's which one is better Reuse or Recycle ? Justify your statement.

33. Draw the Excretory system in human being and label

- a) Left kidney    b) urinary bladder.

**XV. Answer the following questions**

**3 x 3 = 9**

34 Write balanced chemical equation for photosynthesis and the events that take place during photosynthesis.

35. A pea plant with round green (RRyy) pea seed is crossed with another pea plant with wrinkled yellow (rrYY) seeds.

- a) What would be the nature of seeds in the F1 generation ?  
b) Write the nature of the traits in the F2 generation using checker board, and also write the ratio obtained .

Or

- a) What are Fossils?  
b) Explain the methods of studying Fossils.

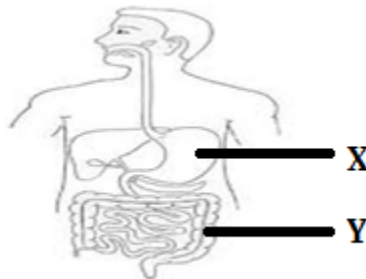
36 Give reasons for the following.

- a) Oxygenated and deoxygenated blood is prevented from mixing in birds and mammals.  
b) The rate of breathing in aquatic organisms is much faster than that seen in terrestrial organisms.  
c) Ventricles have thicker muscular walls than the atria do.

**XVI. Answer the following questions**

**2 x 4 = 8**

37. Given below is the structure of human elementary canal. Identify the parts labelled as X and Y and also mention their functions.



38. Draw a Diagram of the front view of human heart and label the following parts.

- a) Aorta    b) Left ventricle.

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**PRACTICE PAPER - 2**

**Subject: Science      Subject code: 83E**

**Time : 3 Hr 15 Min Max Marks : 80**

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**School Candidates**

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## PART -A Physics

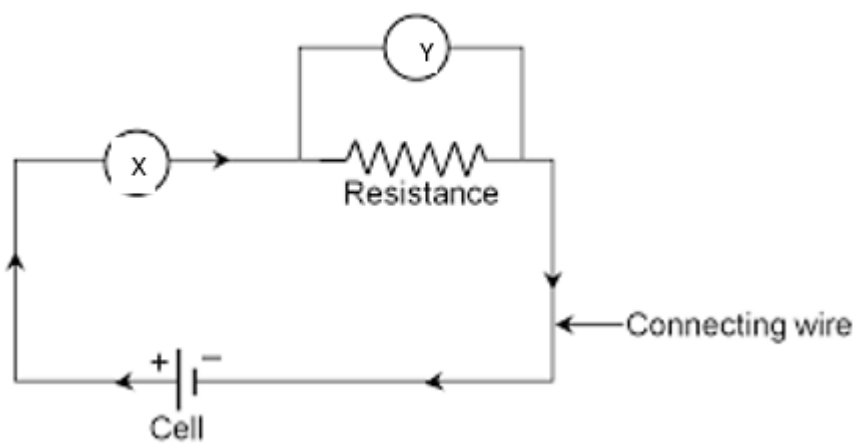
**I. Four alternatives are given for each of the following questions/incomplete Statements. Choose the correct alternative and write the complete answer Along with its letter of alphabet. 3x1=3**

- The SI unit of Resistance is .....  
a) A      b)  $\Omega$       c) J      d) V
- The Current produced in the generator will be maximum when the angle between the magnetic field and the rectangular coil is .....  
a)  $45^\circ$       b)  $0^\circ$       c)  $90^\circ$       d)  $180^\circ$
- Which among the following elements under goes Nuclear fusion.....  
a) Uranium      b) Helium      c) Plutonium      d) Thorium

**II . Answer the Following.**

**3X1=3**

- Identify the electrical instruments 'X' and 'Y' connected in the circuit .



- The Resistors of  $2\Omega$ ,  $3\Omega$  and  $5\Omega$  are connected in series . Find the net resistance of the circuit.
- Write the position of object if the image formed in the concave mirror is virtual and erect

**III. Answer the Following.**

**2x3=6**

- Write any two characteristic of good fuel.
- Sun appears to be red and bigger in size during sun set . Why?

OR

Write any two differences between Shortsightedness and Longsightedness

- Draw the diagram of electric motor.

**IV. Answer the Following..**

**4X3=12**

- Write the role of wires insulated by red , black and green colour insulator in domestic wiring.

OR

Differentiate between electrical generator and electrical motor.

11. Draw the ray diagram of image formation in concave mirror when the object was placed at centre of curvature. Write the nature of the image .

OR

Draw the ray diagram of image formation in convex lens when the object is placed between principal focus and centre of curvature. Write the nature of image.

12. Write the function of the following parts of human eye  
a) Eye lens      b) Pupil      c) Optical nerve
13. The focal length of a converging lens is 25cm. The object of 10cm height is placed at the 40cm distance from the lens. Find the distance of image formed from the lens and magnification. Write the nature of the image.

**V Answer the Following..**

1X4=4

14. I) Write the scientific reason for the following  
a) An alloy is used in manufacturing of an electric water heater rather than a metal.  
b) In domestic wiring the electrical gadgets are used in parallel connection.
- II) The power consumption of an electrical oven is 440W. Calculate the electric current and resistance of oven when it is connected in the circuit having potential difference of 220V.

**PART –B CHEMISTRY**

**VI. Four alternatives are given for each of the following questions/incomplete**

**Statements. Choose the correct alternative and write the complete answer  
Along with its letter of alphabet.      3x1=3**

- 15) Identify the compounds that are oxidized and that are reduced in the following reaction in an order.
- a) HCl and MnO<sub>2</sub>      b) MnO<sub>2</sub> and HCl.  
c) MnCl<sub>2</sub> and Cl<sub>2</sub>      d) MnCl<sub>2</sub> and H<sub>2</sub>O.
- 16) Identify the carbon compound that is used in medicines such as tincture, iodine, cough syrups and many other tonics.
- a) ethanoic acid      b) ethanol  
b) benzene      d) propanol

**VIII. Answer the following questions****3x1=3**

- 17) What happens in the temperature when CaO is treated with H<sub>2</sub>O in a beaker. Name the type of reaction.
- 18) The elements X, Y, Z placed in the order of triads in the periodic table, the mass number element Y is 20 and mass number of Z is 30 . Find the mass number of X.

**VIII Answer the Following.****2X3=6**

- 19) Write a balanced chemical equation representing the displacement of copper with silver nitrate solution. Name the metal that is more reactive.

OR

Draw diagram showing acidic solution in water conducts electricity. and label a) rubber Cork b) battery.

- 20) Represent electrolytic refining of copper with a diagram . Identify and label the electrode on which copper gets deposited?

**IX Answer the Following.****3X3=9**

- 21) Give scientific reasons for the following :-

- a) Platinum, gold are used to make jewellery.
- b) Aluminium is a highly reactive meta, yet it is used to make utensils for cooking.

OR

- a) Solder is used in welding electrical wires together.
- b) Silver articles become black after some time when exposed to air.

- 22) a) State Mendeleev's periodic law.

- c) In the modern periodic table the atomic numbers of the elements A, B, C and D are 3, 11, 19 and 20 simultaneously. Name the elements with
- a) Minimum atomic size and b) Maximum metallic character.

**X. Answer the Following.****4X1=4**

- 23). What is Chlor-alkali process? Name the products produced from this process. List the uses of the by-products.

- 24) .a) Write the electron dot formula for the following compounds.

- i) Ethene
- ii) Methane

- 25). Write the molecular and structural formula for alkane alkene and alkyne for a hydrocarbon with three carbon atoms.

PART C - BIOLOGY

**XI. Four alternatives are given for each of the following questions/incomplete Statements. Choose the correct alternative and write the complete answer Along with its letter of alphabet. 1x3=3**

26) A gland not associated with the alimentary canal is \_\_\_\_\_

- a) liver  
b) salivary glands  
c) pancreas  
d) adrenal

27) A student accidentally places her hand on a flame of candle and quickly pulls her hand away. The flame represents \_\_\_\_\_

- a) a response  
b) stimulus  
b) an impulse  
c) an effector

28) Phenotypic ratio in F<sub>2</sub> generation in dihybrid cross is \_\_\_\_\_

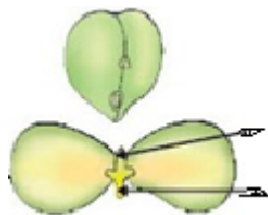
- a) 3:1  
b) 1:2:1  
b) 9:3:3:1  
d) 2:1

**XII. Answer the following questions in one sentence. 3x1=3**

29) Name the substance that trigger the fall of mature leaves and fruits in a plant.

30) What is variation?

31) Identify the two parts labelled by arrow marks and write its function.



**XIII. Answer the following questions in Two/Three sentence. 2x2=4**

32) What is multiple fission? Give its one example.

OR

What is Fertilization? In which part fertilization occur in female reproductive system?

33) Government of India is imposing ban on the single use of polythene bags give reasons.



**XIV. Answer the following questions in Four/Five sentence.**

**3x3=9**

- 34) What is placenta ? Describe its role during pregnancy.
- 35) Explain Mendel's dihybrid ratio with a checker board showing tall plant with a red flower ( TTRR ) and short plant with white flower ( ttrr )
- 36) a) What is environmental pollution?  
b) Distinguish between biodegradable and non- biodegradable pollutants.  
c) Choose the bio-degradable pollutants from the list given below  
Sewage, DDT ,radioactive waste, agricultural waste .

**XV. Answer the following question**

**4x2=8**

- 37) a) Draw a neat diagram of the front view of human heart and label

The following parts.

a) Left ventricle    b) septum    c) aorta.

- b) Why do the walls of the ventricles have thicker muscular walls when compared to atria ?

- 38) a)What are plant hormones?

- b) How is the movement of leaves of the sensitive plant different from the movement of a shoot towards light ?
- c) Give an example of a plant hormone that promotes growth.
- d)How do auxins promote the growth of a tendril around a support?

OR

- a) What is reflex action? Give one example
- b) Name the parts involved reflex arc.

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